

**The 350 Below Project**

**Project proposal**

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Version: 1.0

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# Project executive summary

The 350 BELOW project is a flash game that is aimed at informing the public to the issues that surround carbon emissions and global warming. It will accomplish this by being a fun, educational game where the player is tasked with reducing the amount of carbon in the atmosphere by typing words that show on the screen. If the player is able to keep the carbon levels below 350 for the required about of time then they will win the game, if they fail to keep the carbon levels under control the game will enter runaway effect – and the player will lose.

When the game is completed, either by a win or loss, they will be given several tips on how they can reduce carbon emissions in their day to day life.

The game will be aimed at education primary school children to the effects of carbon emissions and global warming; this is accomplished by a landscape that undergoes several dramatic visual changes depending on how much carbon is in the games atmosphere. These effects are intended to mimic the actual effects of carbon, although on a slightly exaggerated level.

There is a degree of risk associated with this project as it is quite a heavy workload in a short amount of time, however the people behind 350 Below work best in a challenging environment and are confident that they can turn out a product that is educational and most importantly, fun. It is also possible for a marketed release of the product creating possible economic payoffs. With the help of the Agile Development Framework we will ensure that all legal and ethical risks are addressed through careful planning.

## Project Details:

**Project Name:** Carbon Crushers

**Team Name**: 350Below

**Team Members**: Julian Robinson, James Bird, Wepiha Te Ata

**Client**: Ella Lawton, Nick Holmes

**Project Sponsor**: Otago Polytechnic

**Project Supervisors:** Lesley Smith, Samuel Mann

## Project Description:

**Goal:**

issue of climate change and how we are all affected by these changes. Project 350Below will act as a bridging point between 350.org.nz and the general public to increase awareness on the

**Objectives:**

We will identify areas of change as well as describe some remedial steps that we may take to ensure, or at least decrease the likelihood of the dramatic impacts threatening our environment.

## Deliverables:

|  |  |  |
| --- | --- | --- |
|  | ***Details*** | ***Estimated Date*** |
| * Project Start |  | 20 July 2009 |
|  |  |  |
| * Release One | Understanding and Communication | 21st August |
| * Release Two | Functional Delivery | 12th October |
| * Release Three | Robust Delivery | 18 November |
|  |  |  |
| * Project End |  | 24 October |

**Development Estimates (person/hours):**

Presently, the three group members of 350Below have mutually agreed to a total of 7 hours each week allocated to Class and Group Work time. We believe the 21 hours we currently utilise are sufficient for the time being. This will increase to 10 hours a week – for each group member – as the workload increases, bringing the total to 30 hours per week.

Client:………………………………………. Project Team:……………………………………….

……………………………………………….. ………………………………………………………

Date:………………………..………………… Date:…………………………………………………

Section Two: Business Outline

# Business statements

## Client Mission Statement:

It is to our best understanding that 350.org.nz and the Otago Polytechnic are working towards increasing public awareness of the issue of climate change that is presently threatening our environment, being culminated into a food festival held by Dunedin City towards mid October 2009. The result is to demonstrate to the government that people are aware of the issues at hand and are prepared to take urgent action.

## Business description:

350.org.nz organise events, collaborate scientific evidence and motivate the wider community to take action on climate change. Their goal is to show to governments that communities are concerned about global warming, and are willing to make changes to help ensure the health of the environment.

## Business objectives:

The overall objective is to increase the public awareness of the carbon dioxide concentration in our Earths’ atmosphere; this will be accomplished through a variety of events worldwide, with our primary focus being the local food festival to emphasize the 350.org movement in Dunedin, New Zealand. This food festival will be held on the 24th of October 2009.

## 

Section Three: Methodology

# Project Methodology

The methodology we are using for the development of this project is the Agile Development Framework (ADF). This methodology allows us to be constantly reviewing our Functional Requirements, and provides the project with more flexibility to embrace change as our understanding of the clients requirements grows.

This methodology breaks the project into three Iterations; each with a different focus. The first iteration is the understanding iteration, where we analyse the project and ensure that we have a complete and thorough understanding of what is required. The second iteration is where the project is delivered to the client in a working, but incomplete state. This is so the client can get a good idea of what the final project is expected to look like, giving them the opportunity to ensure that it meets their requirements, and to provide feedback. The third iteration is the robust delivery of the project, where the fully completed system is handed over to the client, complete with documentation and manuals. The iterations are summarised into several deliverables, these include:

* Iteration 1
  + Client Letter
  + Project Proposal
  + Prototype Mockups
* Iteration 2
  + Client Letter
  + Working Application (useful, but not complete)
* Iteration 3
  + Complete Project Package
  + Project Documentation and User Manual
  + Presentation to Client

As part of increasing our understanding of the functional requirements we will use various tools from the ADF, such as creating a *System Metaphor* (a conceptual framework to create a shared vocabulary and common understanding), defining an *Audience Map* (identifying the stakeholders – someone who has an interest in either/both the project process or solution) and maintaining a *Knowledge Base* (to reduce the overall uncertainty over the period during the project duration).

Maintaining these documents through each iteration of the development will ensure that the final product fits the client’s specifications, meets all functional requirements, and takes into account the affects that the product may have on stakeholders.

Section Four: Project Outline

# Project Outline

## Project Description

The purpose of the Project is to communicate to people the importance of climate change, and to get them to make a conscious effort to reducing their carbon emissions. The project also has to inform people about the 350.org events that are happening in their area.

This will be conveyed to the users through a Flash Game where the user is exposed to the various affects of climate change and they are put in a position to make a change to the environment by typing words that are shown to them on the screen. The game will give the user approximately 350 seconds to type as many words as possible, thus reducing the amount of carbon in the game atmosphere. The amount of carbon will increase if the user gets a word incorrect as well as increasing slowly over time. The only way to reduce the amount of carbon is to correctly type the words shown on screen.

The game will have a simple art style, with bold colours to exaggerate the affects that the amount of carbon has on the atmosphere. The users will be given feedback on how much carbon is currently in the games atmosphere through the use of a carbon meter, which will range from 300-550 carbon parts per million, in relation to the current levels of carbon in the Earth’s atmosphere.

If the user is able to lower the carbon levels below 350, and keep it there until the time runs out then they will successfully complete the game, however if the user fails to control the amount of carbon past 500, then the carbon levels will reach runaway levels, where the amount of carbon begins to rapidly increase until the levels reach 550, where the user will fail.

When the user finishes the game they will be shown ways that they can help reduce the amount of carbon they release into the atmosphere in the form of several tips, as well as a short listing of 350.org events. The words that the user types into the game will also be all carbon themed words, so that in playing the game the user is typing in ways that they can reduce emissions.

# Project risks

There are several risks that are associated with the project. The biggest of these are related to time, and our understanding of the project. Such as the tight time till the deadline and the amount of time the project has between completion, and the Spring Food Festival. If the project is not completed in sufficient time, then the message may reach the intended audience and fail to meet the client’s requirements. The Agile Development Framework structure provides planning and structure to greatly reduce time-management risks.

Other risks are related to the reception of the product by society. If the product fails to take into consideration the interest or ethics of society then it may receive a negative backlash upon release. This risk will be minimized through a thorough analysis of the project stakeholders against the Code of Ethics to ensure that we do not breach any sections.

By adhering to the code of ethics we will ensure that our project will be in the best interest of the public and our client, and shall be to the highest professional standards possible. We will endeavor to maintain integrity and independence in professional judgment and subscribe to this ethical approach.

## Economic Feasibility

|  |  |
| --- | --- |
| **Tangible benefits:** Those that can be measure in direct financial terms. | **Intangible benefits:** Cannot easily be measured – but contribute to success or failure |
| There is a potential for a marketed released of the program because of its educational nature, similar products may exist however, most of these are not directly influenced by, or in partnership with, the 350.org movement. We believe our product could succeed on the grounds that it invites young people to both learn new skills and gain a better understanding of our environment.  The potential for business opportunities to arise from the development for this game could come in the form of advertising within the game.  The only financial investment in this project is personal hours invested in development by the 350 Below team. | Increased awareness on the issue of climate change giving people another thing to think about when making decisions – “will doing this help reduce carbon emissions?”  Completion of a project gives everyone a sense of relief as they know that the investment in the project has not gone to waste. |

## Technical Feasibility

There is a degree of risk with a project like this, as the team has had little to no experience in programming in Flash, and the tight time line of the project means we have to learn quickly. This coupled with the rather large size of the project means that we have a very limited time to learn the language, and implement it with a satisfactory result. However we are all competent individuals who are more than capable of teaching ourselves what is needed, and are confident that the end result will meet all expectations.

## Operational Feasibility

The finished product will be something that can be used long after the food festival as once it has been built and complete as the steps that people can go to to help reduce their carbon emissions will never change. In this sense we feel that the projects long lifetime will give it more value for money then something that is only useful until the Spring Food Festival. Our project will continue to inform people about the consequences of global warming long afterwards.

However in order to inform people about the 350 Spring Festival the project must be completed before then, the shorter the gap between project completion and the Spring Festival means that the project has less time to inform people about the festival but, as mentioned before, the project can inform people about how to reduce carbon emissions long after the festival.

## Legal, Ethical and Contractual Feasibility

We will be working closely with the Code of Ethics to ensure that the project takes into consideration the affects it will have on all possible stakeholders. By doing this we hope to eliminate all Ethical issues that could be associated with the construction of the project. All the work that goes into the project will be create from scratch by the 350 Below team to avoid any possible copyright, or other legal, infringements.

## Political Feasibility

The process of the Agile Development Framework means that each iteration a thorough Audience Map is completed. This audience map is a map that identifies all the stakeholders in the project, by doing this we can ensure that every person or groups needs are taken into consideration during development. If any issues with stakeholders are discovered in these audience maps then a solution will be developed immediately.

## Risk Action Plan

|  |  |  |
| --- | --- | --- |
| **Risk Area** | **Level (H/M/L)** | **Risk Plan** |
| Economic Feasibility | L | We believe that the economic feasibility of the project is considered low risk, as there is no financial loss or gain from the project. And the only time spent on the project is the man hours of 350 Below. |
| Technical Feasibility | H | There is a high risk involved with the technical feasibility of the project. With each team member having limited knowledge on how to develop in Flash, and the tight timeline. However we are all committed to seeing this project through – and are keen to develop our skills through challenges. |
| Operational Feasibility | M | The operational feasibility of the project is considered a medium risk as the project will have limited hours from completion to the Spring Food Festival. |
| Legal and Ethical Feasibility | L | The Legal and Ethical issues of the project are considered low risk because the process of the Agile Development Framework means that at each step of the project these issues are addressed through audience maps, and SoDIS reports. |
| Political Feasibility | L | The Political issues of the project are also considered low risk. Like the Legal and Ethical issues the Agile Development Framework ensures that these issues are addressed during development, through audience maps, knowledge bases and SoDIS reports. |

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